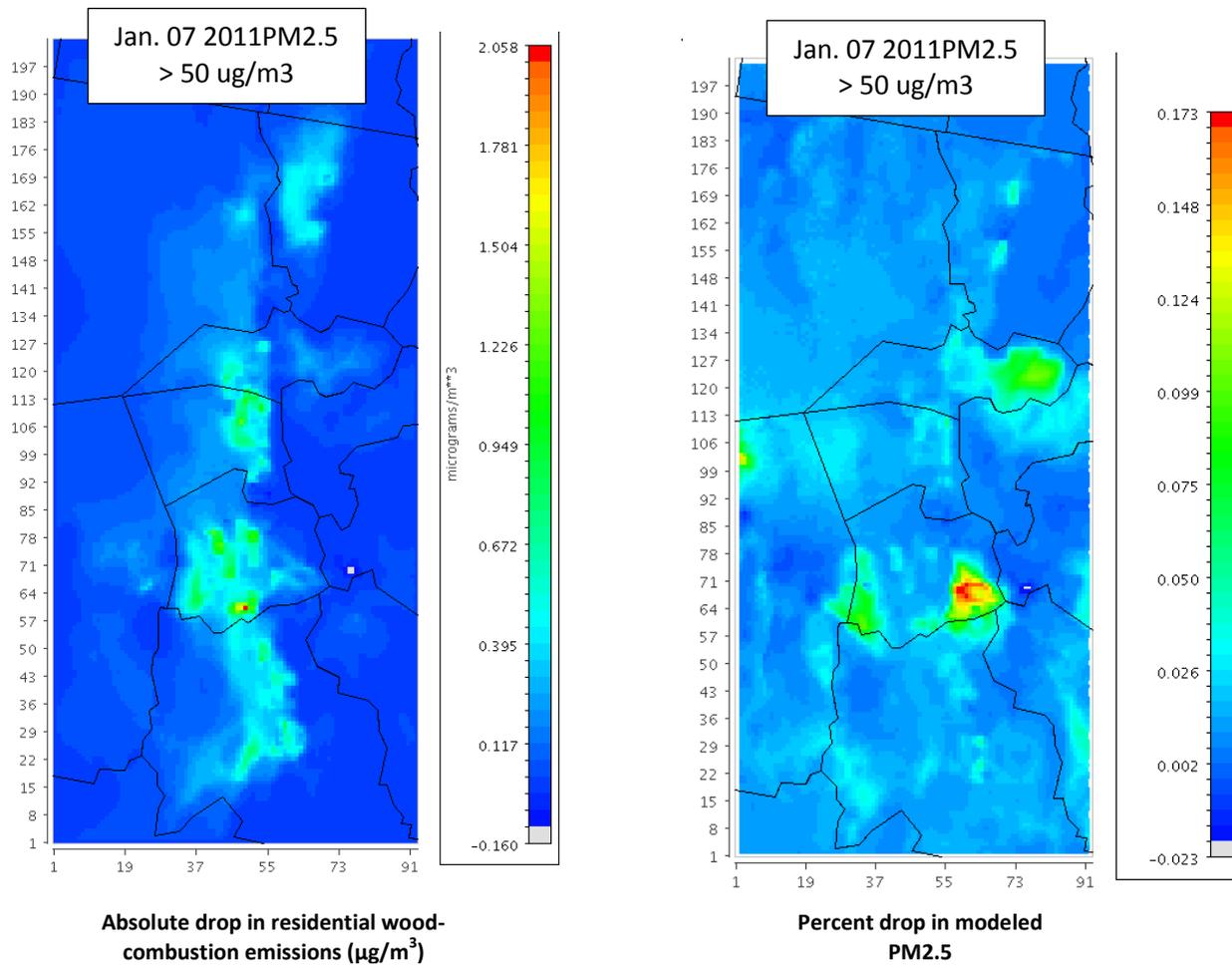


Air Quality Modeling Using Source Apportionment

Assuming that all existing wood-burning devices are converted to EPA-certified catalytic devices, results from the air quality model estimate that PM_{2.5} levels would drop by as much as 2 $\mu\text{g}/\text{m}^3$ on a typical high PM_{2.5} pollution day, with the highest drop occurring in Southern Salt Lake County. There is less of a reduction observed in Cache County and this is attributed to the model's inability, at present, to properly simulate the inversion in the Cache valley.



When running the model to compare the effect of replacing older wood stoves and fireplaces with newer technology the number of exceedance days does not change between the pre- and post-change out scenarios. This allows an equal comparison among scenarios so that the maximum amount of days when EPA-certified devices may be used is the same in pre and post change-out scenarios. These results suggest that a wood-stove change-out program to EPA-certified catalytic devices has a limited air quality benefit. In some sense this would be expected since current emissions from wood-burning devices are estimated to be about 14% of the total emissions load. DAQ is currently investigating the reduction in PM_{2.5} levels following a change-out to low-emission natural gas devices. These devices emit about 169 times less PM_{2.5} emissions than EPA-certified catalytic devices.

